

|   |   |   |                              |                                      |                    |             |                                 |  |            |           |                    |                           |                               |             |                  |  |
|---|---|---|------------------------------|--------------------------------------|--------------------|-------------|---------------------------------|--|------------|-----------|--------------------|---------------------------|-------------------------------|-------------|------------------|--|
| Name(s) of Risk Team Members:<br>P. Cirnigliaro, A. Etkin, R. Karol, E. Lessard, J. Maraviglia, D. Passarello, A. Piper, R. Savage, J. Scott, M. Van Essendelft |   |   | Point Value →<br>Parameter ↓ |                                      | 1                  |             | 2                               |  | 3          |           | 4                  |                           | 5                             |             |                  |  |
| Area/Facility Description Title: Collider-Accelerator<br><br>Area/Facility # (if applicable): Waste Yard FRA 22-05  |   |   | Occupancy or Use (A)         |                                      | ≤once/year         |             | ≤once/month                     |  | ≤once/week |           | ≤once/shift        |                           | >once/shift                   |             |                  |  |
| Area/Facility Description: Area-Wide Waste Yard   |   |   | Severity (B)                 |                                      | First Aid Only     |             | Medical Treatment               |  | Lost Time  |           | Partial Disability |                           | Death or Permanent Disability |             |                  |  |
|   |   |   | Likelihood (C)               |                                      | Extremely Unlikely |             | Unlikely                        |  | Possible   |           | Probable           |                           | Multiple                      |             |                  |  |
| Approved by: <i>E. Lessard</i> Date: 3/21/05      Rev.#: 0  |   |   |                              |                                      |                    |             |                                 |  |            | Comments: |                    |                           |                               |             |                  |  |
|   |   |   |                              | Reason for Revision (if applicable): |                    |             |                                 |  |            |           |                    |                           |                               |             |                  |  |
|   |   |   |                              | Before Additional Controls           |                    |             |                                 |  |            |           |                    | After Additional Controls |                               |             |                  |  |
| Physical Item or Activity   | Hazard(s)   | Control(s)  | Occupancy A                  | Severity B                           | Likelihood C       | Risk* AxBxC | Control(s) Added to Reduce Risk |  |            |           | Occupancy A        | Severity B                | Likelihood C                  | Risk* AxBxC | % Risk Reduction |  |
| Receiving, sorting, handling and packaging wastes   | Radiation   | Posting, labeling, PPE, Tier 1 inspections, training, procedures, work planning, dosimeters, radiation surveys, RWP, RWMB, qualified personnel, locked and fenced area with limited access, use of certified containers and drums     | 3                            | 1                                    | 3                  | 9           |                                 |  |            |           |                    |                           |                               |             |                  |  |
| Receiving, sorting, handling and packaging wastes   | Overexertion – injuries caused by excessive lifting, pushing, pulling, holding, carrying or throwing of an object | Training, procedures, work planning   | 3                            | 3                                    | 3                  | 27          |                                 |  |            |           |                    |                           |                               |             |                  |  |
| Receiving, sorting, handling and packaging wastes   | Hazardous material exposures  | Posting, labeling, PPE, Tier 1 inspections, training, procedures, work planning, MSDS, dosimeters, industrial hygiene surveys, qualified personnel, locked and fenced area with limited access, use of certified containers and drums | 2                            | 3                                    | 2                  | 12          |                                 |  |            |           |                    |                           |                               |             |                  |  |
| Receiving, sorting handling and packaging wastes  | Falls on the same level   | Maintenance of area, work planning, snow removal  | 3                            | 3                                    | 3                  | 27          |                                 |  |            |           |                    |                           |                               |             |                  |  |
| Receiving, sorting handling and packaging wastes in outdoor area  | Heat or cold stress   | Training, Laboratory notification system on heat & cold alerts  | 2                            | 1                                    | 3                  | 9           |                                 |  |            |           |                    |                           |                               |             |                  |  |
| Receiving, handling and packaging wastes  | Being struck by an object such as a vehicle in motion   | Training, work planning, spotters   | 2                            | 4                                    | 3                  | 24          |                                 |  |            |           |                    |                           |                               |             |                  |  |

|   |  |   |          |   |             |    |               |  |  |  |  |
|---|--|---|----------|---|-------------|----|---------------|--|--|--|--|
| Receiving, handling and packaging wastes into bins    | Pinch points in placing wastes in containers or moving waste container cover | Training, work planning, spotters   | 2        | 4 | 3           | 24 |               |  |  |  |  |
| Sorting and packaging wastes – power tool usage       | Being struck against a sharp surface   | Work planning, use of safe tools, PPE   | 2        | 4 | 3           | 24 |               |  |  |  |  |
| Sorting and packaging wastes – electrical             | Electrical shock   | GFCI, UL listed tools, work planning, guards  | 2        | 2 | 2           | 8  |               |  |  |  |  |
| Sorting and packaging wastes – hydraulics             | Being caught in or compressed by equipment                                   | Work planning, guards   | 1        | 2 | 2           | 4  |               |  |  |  |  |
| Storage of wastes                                     | Fire   | Minimize combustibles, BNL Fire/Rescue Group, emergency procedures, EMTs  | 2        | 2 | 1           | 4  |               |  |  |  |  |
| Cutting waste drums                                   | Being struck against a sharp surface   | PPE, personal communication device, supervisor communication, work planning, maintenance of equipment   | 2        | 3 | 3           | 18 |               |  |  |  |  |
| Bulb crushing - electrical                            | Electric shock   | GFCI, Tier 1 inspections, procedures, work planning, training, qualified personnel  | 2        | 2 | 2           | 8  |               |  |  |  |  |
| Bulb crushing   | Being struck by an object such as flying debris                              | Guarding of moving parts, PPE, Tier 1 inspections, procedures, work planning, training  | 2        | 3 | 2           | 12 |               |  |  |  |  |
| Bulb crushing   | Exposure to hazardous materials  | HEPA/charcoal filters, posting, labeling, MSDS, PPE, Tier 1 inspections, procedures, work planning, training, industrial hygiene surveys, qualified personnel | 2        | 2 | 2           | 8  |               |  |  |  |  |
| Further Description of Controls Added to Reduce Risk: |  |   |          |   |             |    |               |  |  |  |  |
| *Risk:  | 0 to 20  | 21 to 40  | 41-60    |   | 61 to 80    |    | 81 or greater |  |  |  |  |
|   | Negligible   | Acceptable  | Moderate |   | Substantial |    | Intolerable   |  |  |  |  |